

WHAT IS CLAIMED IS:

1. A method for identifying regions of pixels in image data, comprising:
 - a) identifying a blob containing pixels in a first line of image data which differ in color characteristics by less than a predefined amount;
 - b) associating the blob with a temporary blob identifier;
 - c) identifying additional blobs containing pixels in adjacent lines of the image data which differ in color characteristics by less than the predefined amount;
 - d) associating the additional blobs with the temporary blob identifier, if the additional blobs are linked to the blob.
2. The method of claim 1, further comprising:
counting a total number of the pixels in the blobs associated with the temporary blob identifier.
3. The method of claim 2, further comprising:
calculating a normalized color value for the temporary blob identifier, based on a summation of pixel color values and the total number of pixels in the blobs associated with the temporary blob identifier.
4. The method of claim 1, further comprising:
storing the temporary blob identifier as a permanent blob, when it is determined that no additional blobs are going to be associated with the temporary blob identifier.
5. A method for identifying regions of pixels in image data, comprising:
 - identifying a blob containing pixels in a peripheral line of image data which differ in color characteristics by less than a predefined amount, and associating the blob with a temporary blob identifier;
 - successively identifying a next blob containing pixels which differ in color characteristics by less than the predefined amount starting with a next adjacent line adjacent to the peripheral line;
 - associating the next blob with the temporary blob identifier if the next blob is linked to either the blob or a prior next blob which is linked to the blob based on linking information of the next blob;

continue successively identifying a next blob containing pixels which differ in color characteristics by less than the predefined amount of a next adjacent line adjacent to a new next adjacent line; and

continuing to associate the next blob of a next adjacent line with the temporary blob identifier until a line is reached which has no blobs linked to the blob.

6. The method of claim 5, further comprising:

creating a new temporary blob identifier if a next blob of a new next adjacent line is not linked to a prior next blob on a previous next adjacent line; and associating the next blob of a new next adjacent line with the new temporary blob identifier.

7. The method of claim 5, further comprising:

linking a plurality of next blobs located in a single next adjacent line with a temporary blob identifier, if the blobs are linked horizontally within the next adjacent line, and linked vertically to the blob or the prior next blob which is linked to the blob.

8. The method of claim 5, further comprising:

counting a total number of the pixels in blobs associated with the temporary blob identifier.

9. The method of claim 5, further comprising:

calculating a normalized color value for the temporary blob identifier, based on a summation of pixel color values and the total number of pixels in blobs associated with the temporary blob identifier.

10. The method of claim 5, further comprising:

storing the temporary blob identifier as a permanent blob, when a next line is not linked to a previous line.

11. The method of claim 10, further comprising:

initializing the temporary blob identifier after the temporary blob identifier has been stored as the permanent blob.

12. The method of claim 5, further comprising:

updating a blob identification map, which assigns the temporary blob identifier to pixels associated with the temporary blob identifier.

13. The method of claim 5, further comprising:

associating the prior next blob and the next blob with the temporary blob identifier, based on a translate table.

14. An image data processing apparatus, comprising:
a blob processor; and
a memory coupled to the blob processor, the memory storing link information that links together two or more line blobs of the image data,
wherein the blob processor groups line blobs of a line and of continuously adjacent lines that are linked together into a single blob and assigns a unique blob ID to the single blob.

15. The apparatus of claim 14, further comprising a linking processor coupled to the blob processor, the blob processor assigning pixels in a peripheral line to a blob according to their color characteristics, and pixels in a next adjacent line to a next blob, and provides linking information linking the next blob to the blob according to the color characteristics of the next blob and the blob, wherein the blob processor successively identifies a new next blob on a new next adjacent line adjacent to the next adjacent line according to color characteristics,

the linking processor linking the new next blob in the next line to a new temporary blob identifier if the new next blob is not linked to any other blobs in a previous next adjacent line, linking the next blob to a previous blob, and linking the previous blob to the temporary blob identifier if the previous blob is linked to the blob, the linking processor associating the next blob on the next adjacent line with the temporary blob identifier, until a line is reached which has no blobs linked to the blob.

16. The apparatus of claim 15, further comprising a scan table translator that associates the next blob and the previous blob with the temporary blob identifier.

17. The apparatus of claim 15, further comprising:
a blob content updater for updating a blob ID map to assign pixels in the current line to the temporary blob identifier which are associated with the temporary blob identifier.

18. The apparatus of claim 17, wherein the blob content updater also maintains information on the total pixel count contained in the temporary blob.

19. The apparatus of claim 15, further comprising:

a horizontal blob identifier which for detects the state of a flag, which indicates whether a next blob is horizontally linked to any other blobs on the same next adjacent line, and vertically linked to the previous blob, and if so, links each of the horizontally linked blobs to the temporary blob identifier.

20. The apparatus of claim 15, wherein the temporary blob identifier is obtained by following a ylink field, which associates the next blob with the previous blob, wherein the previous blob is linked to the temporary blob identifier by a translate table.

21. The apparatus of claim 15, further comprising:
a blob table generator, for generating a permanent table of blobs entry for the temporary blob identifier, when a next line is not linked to a previous adjacent line.

22. An apparatus for identifying regions in image data, comprising:
means for assigning pixels in a peripheral line to a blob according to their color and edge characteristics, for assigning pixels in a next adjacent line to a next blob, and for providing linking information linking the next blob to the blob according to the color characteristics of the next blob and the blob, for successively identifying a new next blob on a new next adjacent line adjacent to the next adjacent line according to color characteristics;

means for linking the new next blob in the next line to a new temporary blob identifier if the new next blob is not linked to any other blobs in a previous next adjacent line, for linking the next blob to a previous blob, for linking the previous blob to the temporary blob identifier if the previous blob is linked to the blob, and for associating the next blob on the next adjacent line with the temporary blob identifier, until a line is reached which has no blobs linked to the blob.

23. The apparatus of claim 22, further comprising:
scan table translation means for translating the linking information for a next blob to a previous blob, to linking information for the next blob to the temporary blob identifier;

blob table generating means for storing the information associated with the temporary blob identifier as a permanent blob, when a next adjacent line is reached that has no links to the temporary blob identifier;

blob content updating means for updating the information associated with the temporary blob identifier and updates the blob ID map to use the temporary blob identifiers;

horizontal blob identifying means for detecting whether the next blob is linked horizontally to any other blobs on the next adjacent line, and if so, for linking each of the horizontally linked blobs to the temporary blob identifier.

24. A computer-readable medium having computer-readable program code embodied therein, the computer-readable program code performing the method of claim 1.

25. A xerographic marking device using the method of claim 1.

26. A digital photocopier using the method of claim 1.